CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS SYSTEM

maintained by the

CALIFORNIA DEPARTMENT OF FISH AND GAME

and supported by the

CALIFORNIA INTERAGENCY WILDLIFE TASK GROUP Database Version 8.1 (2005)

A034 Woodhouse's Toad Bufo woodhousii Family: Bufonidae Order: Anura Class: Amphibia

Written by: M. Simon Reviewed by: T. Papenfuss Edited by: R. Duke

DISTRIBUTION, ABUNDANCE, AND SEASONALITY

Woodhouse's toads are found in the extreme southeastern part of California, lower Colorado River, in irrigated lands of Imperial Co., and in orchards near Indio, Riverside Co. This species is found in several arid and semi-arid habitats: desert scrub, desert wash, and desert riparian. It is often found in cultivated areas. In the eastern part of its range it is primarily found in flood plain habitat. Outside California, Woodhouse's toad occurs from sea-level to 2572 m (8500 ft). This species is active in the spring and early summer. Individuals may aestivate during the hottest part of the summer (Stebbins 1954, 1985).

SPECIFIC HABITAT REQUIREMENTS

Feeding: This species feeds primarily at night on grasshoppers, crickets, moths, caterpillars, beetles, ants, sowbugs, scorpions, centipedes, and spiders (Bragg and Smith 1943, Behler and King 1979).

Cover: Sandy soil for burrowing is preferred. Individuals hide in burrows, under rocks, or in vegetation during the day (Bragg and Smith 1943, Stebbins 1985).

Reproduction: Eggs are laid in a variety of aquatic habitats: shallow ponds or slow-moving creeks, freshwater pools, irrigation ditches, cattle tanks (Stebbins 1954). Early breeders select small, shallow ponds, late breeders select larger, more permanent bodies of water. This species may prefer to lay eggs in muddy water (Bragg and Smith 1943).

Water: Standing freshwater is required for reproduction.

Pattern: This species is most likely found in desert habitats with sufficient refugia sites and at least ephemeral aquatic breeding sites.

SPECIES LIFE HISTORY

Activity Patterns: Adults are primarily nocturnal; juveniles may be diurnal during the first few weeks after metamorphosis (Bragg and Smith 1943, Fergusen 1960). Individuals are active at temperatures ranging from 22° C to 35° C (72-95° F) (Brattstrom 1963). Outside these temperatures, individuals move below the surface (Stille 1952).

Seasonal Movements/Migration: No specific information. Adults probably make short seasonal migrations from winter refugia to breeding grounds in the spring.

Home Range: Sexually mature males will usually remain at the same pond throughout the breeding season, however, a few individuals will occasionally move from the original breeding area to different breeding sites (Thornton 1960).

Territory: Males aggressively compete among themselves for mates (Woodward 1982).

Reproduction: Breeding occurs between March and August and peaks during or just after rainy periods. The initiation of mating calls by the males may be stimulated by a combination of warm temperatures and wet weather (Thornton 1960). The breeding season lasts one to several weeks for a given population in a given year, and not all females are ready to breed at the same time (Mayhew 1968, Woodward 1982). Breeding occurs in small groups (Bragg and Smith 1943). Males call from the water and females lay up to 25,000 eggs per season (Stebbins 1954, Brown and Pierce 1967). Larval development takes 34-45 days (Mayhew 1968). Not all mature individuals of this species breed every year (Bragg and Smith 1943). Males reach sexual maturity 1-2 years after metamorphosis, females in 2-3 years (Thornton 1960).

Niche: Great blue herons have been seen eating adult toads. Adults can tolerate a maximum temperature of 40.5° C (105° F).

Comments: Also called Rocky Mountain toad.

REFERENCES

- Behler, J. L., and F. W. King. 1979. The Audubon Society field guide to North American reptiles and amphibians. Alfred Knopf, New York. 743pp.
- Bragg. A. N., and C. C. Smith. 1943. Observations on the ecology and natural history of Anura IV. The ecological distribution of toads in Oklahoma. Ecology 24:285-309.
- Brattstrom, B. H. 1963. A preliminary review of the thermal requirements of amphibians. Ecology 44:238-255.
- Brown, L. E., and J. R. Pierce. 1967. Observations on the breeding behavior of certain anuran amphibians. Tex. J. Sci. 17:313-317.
- Ferguson, D. E. 1960. Movements and behavior of Bufo fowleri in residential areas. Herpetologica 16:112-114.
- Mayhew, W. W. 1968. The biology of desert amphibians and reptiles. Pages 195-356 in G. W. Brown, Jr., ed. Desert Biology, Vol. 1. Academic Press, New York. 638pp.
- Stebbins, R. C. 1954. Amphibians and reptiles of western North America. McGraw-Hill, New York. 536pp.
- Stebbins, R. C. 1985. A field guide to western reptiles and amphibians. 2nd ed., revised. Houghton Mifflin, Boston. 336pp.
- Stille, W. T. 1952. The nocturnal amphibian fauna of the southern Lake Michigan Beach. Ecology 33:149-162.
- Thornton, W. A. 1960. Population dynamics in Bufo woodhousei and Bufo valliceps. Tex. J. Sci. 12:176-200.
- Woodward, B. D. 1982. Sexual selection and non-random mating patterns in desert anurans (Bufo woodhousei, Scaphiopus couchi, S. Multiplicatus, S. Bombifrons). Copeia 1982: 351-355.., revised. Houghton Mifflin, Boston. 336pp.